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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,487	09/21/2004	Khamir Girish Joshi	030742KEL111	5486
32583	7590	10/10/2006	EXAMINER	
KELLOGG BROWN & ROOT LLC ATTN: IP LEGAL DEPARTMENT 601 JEFFERSON AVENUE HOUSTON, TX 77002			SINGH, SUNIL	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,487

Applicant(s)

JOSHI ET AL.

Examiner

Sunil Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-14,16-34,50-62,64 and 65 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-14,16-34,50-62,64 and 65 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,6,50,51 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrison '670.

Harrison discloses a subsea pipeline (10) comprising a first pipeline (see member 10 @ left side of Fig. 4), intermediate buoyant pipeline section (see member 10 @ 20 of Fig. 4) and a second pipeline (see member 10 @ right side of Fig. 4).

3. Claims 1,3,5-6,8-14,16, 25-27, 33-34,50 are rejected under 35 U.S.C. 102(a) as being anticipated by Wipo '014. (WO 2004/068014).

Wipo '014 discloses an apparatus (1) to traverse a seabed topographic feature comprising a subsea pipeline (1) constructed to carry fluids from a first location (this is considered as the left of Fig. 1) across the topographic feature to a second location (this is considered as the right of Fig. 1) wherein the topographic feature is selected from the group consisting of subsea, basins, domes, valleys, cliffs, canyons, escarpments and combinations thereof, said pipeline including at least one distributed buoyancy region (6,25) said pipeline comprising a first unbuoyed pipeline section (2)

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extending from said first location on a sea floor (4) to said distributed buoyancy region and a second unbuoyed pipeline section (3) extending from said distributed buoyancy region to said second location on a sea floor and said distributed buoyancy region connecting said first and said second pipeline sections in fluid communication.

Buoyancy modules (see page 4 line 1). Tether system (see Figures). First flexure (7) and second flexure (8). First flexure includes an anchor (see Fig. 4). Negatively buoyant (see Figs. 3,4). Positively buoyant (see Figs. 5-7).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wipo '014 in view of Moses et al. '977.

Wipo '014 discloses the invention substantially as claimed. However, Wipo '014 is silent about the buoyancy region comprising a continuous coating of buoyant material.

Moses et al. teach a buoyancy region comprising a continuous coating of buoyant material ((62), see Fig. 6 and col. 6 line 55+). It would have been considered obvious to one of ordinary skill in the art to modify Wipo '014 by substituting the buoyancy means as taught by Moses et al. for the buoyancy means as disclosed by Wipo '014 since it is a design choice to substitute equivalent parts for performing equivalent functions. Such

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modification allows for the buoyancy section to be constructed in a factory and thus reduce time at the installation point.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison '670 in view of Luppi (2005/0158126).

Harrison discloses the invention substantially as claimed. However, Harrison lacks a plurality of buoyancy means. Luppi teaches a plurality of buoyancy means (22-24). It would have been considered obvious to one of ordinary skill in the art to modify Harrison to include a plurality of buoyancy members as taught by Luppi in order to control the tension forces applied to the pipeline.

7. Claims 8,9,17-24, 28-32, 51-58, 60,61,62,64-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison '670 in view of Moses et al. '977.

Harrison discloses an apparatus to traverse a seabed topographic feature comprising a subsea pipeline (10) constructed to carry fluids from a first location (see left or right side of Figure 4) across the topographic feature to a second location (see left or right side of Figure 4) wherein the topographic feature is selected from the group consisting of subsea, basins, domes, valleys, cliffs, canyons, escarpments and combinations thereof; said pipeline including at least one unanchored distributed buoyancy region (see Fig. 4 pipeline portion where member 20 is connected to), said pipeline comprising a first unbuoyed pipeline section (member 10 @ left or right side of Fig. 4) extending from said first location on a sea floor to said distributed buoyancy region and a second

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unbuoyed pipeline section (member 10 @ left or right side of Fig. 4) extending from said distributed buoyancy region to said second location on a sea floor. It should be noted that Harrison teaches weighted joints or anchors (18) (see col. 3 line 55+). Harrison discloses the invention substantially as claimed. However, Harrison is silent about including a first and second flexure device. Moses et al. teach flexure devices (32). It would have been considered obvious to one of ordinary skill in the art to modify Harrison to include flexure devices as taught by Moses et al. at the weighted joints (where member 18 is positioned in Fig. 4 and see col. 3 line 55+) in order to reduce stress.

With regards to claim 60, Harrison is silent about the buoyancy region comprising a continuous coating of buoyant material. Moses et al. teach a buoyancy region comprising a continuous coating of buoyant material ((62), see Fig. 6 and col. 6 line 55+). It would have been considered obvious to one of ordinary skill in the art to modify Harrison by substituting the buoyancy means as taught by Moses et al. for the buoyancy means as disclosed by Harrison since it is a design choice to substitute equivalent parts for performing equivalent functions.

With regards to claim 61, it would have been considered obvious to one of ordinary skill in the art to modify Harrison to include tether/anchor means such as member (18).

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8. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison in view of Moses et al. as applied to claim 58 above, and further in view of Luppi.

Harrison (once modified) discloses the invention substantially as claimed. However, the (once modified) Harrison lacks a plurality of buoyancy means. Luppi teaches a plurality of buoyancy means (22-24). It would have been considered obvious to one of ordinary skill in the art to further modify the (once modified) Harrison to include a plurality of buoyancy members as taught by Luppi in order to control the tension forces applied to the pipeline.

Response to Arguments

9. Applicant's arguments filed 7/18/06 have been fully considered but they are not persuasive. With regards to Harrison, applicant argues that the specification defines "distributed buoyancy" and therefore it distinguishes over "concentrated buoyancy". The examiner disagrees. In Figure 4 of Harrison, where member 20 is connected to line 10, a portion of the line thereof constitutes the buoyancy region. The fact that the "single point" buoyancy affects a portion of the pipe then by the definition itself it is distributed. Applicant's argument about whether Harrison end result allows for the pipeline to contour the seabed is of no moment. The structure shown in Figure 4 of Harrison teaches applicant's claimed subject matter. Applicant argues that his invention is constructed to carry fluids while Harrison cannot without risk of damage. The fact that the pipeline of Harrison can rupture does not preclude it from carrying fluid (e.g. light fluid). As a matter of fact any pipeline can rupture under certain circumstances.

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Applicant argues that Harrison does not teach an inverse cantenary. The examiner is confused. Figure 4 of Harrison shows an inverse cantenary.

With regards to WO '014, applicant argues that his buoyancy region does not include a frame or other support. The examiner agrees. However, the claims do not preclude the buoyancy region from having a frame and the like. Applicant argues that the pipeline of WO '014 does not become buoyant and thus fail to meet the limitation "distributed buoyancy region". The examiner is confused. The pipeline member is connected to members (6,25) which provide buoyancy to a region of the pipeline (see Figs. 1-7). Applicant argues that WO '014 does not show plurality of buoyancy modules, the examiner disagrees, See WO '014 page 4 line 1. Applicant argues that WO '014 does not show positive buoyancy. Applicant is directed to Figures 1,2,5-7 for positive buoyancy. Applicant argues WO '014 does not show inverse cantenary. Applicant is directed to Figures 3-4.

Applicant argues that Luppi does not teach a plurality of discrete buoyancy modules. The examiner disagrees. Figure 1 of Luppi shows discrete buoyancy modules (22-24). The limitation about the sea floor is taught by Harrison and Luppi is not relied for any such teaching.

Applicant argues that Moses et al. does not teach a continuous coating. The examiner disagrees. Applicant is directed to (Fig. 6, member (62), col. 6 line 55+). The examiner fails to see why member 62, col. 6 line 55+, and Fig. 6 do not teach a distributed buoyancy region. The fact that the "single point" buoyancy affects a portion of the pipe then by the definition itself it is distributed. Applicant argues it is not clear

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how the buoyancy teaching of Moses et al. can be incorporated into WO '014. The buoyancy members provided by frame members 6,25 would be replaced by coating member 6 and/or 25 of WO '014. Applicant argues that Moses et al. does not teach a pipeline traversing a seabed. The examiner agrees. Harrison is relied on for the teaching of traversing a seabed with a pipeline. Applicant argues that one would not combine Moses et al. with Harrison because one buoyancy member is for bending and the other is for removal of axial tension. To one skilled in the art, it is obvious to substitute one type of buoyancy member for another type of buoyancy member. As a matter of fact, as depicted in Figure 4 of Harrison the pipe forms a bend so the buoyancy member of Moses et al. is applicable. Applicant argues that Harrison does not teach a flexure control device. The examiner disagrees. Applicant is directed to member (18) of Harrison.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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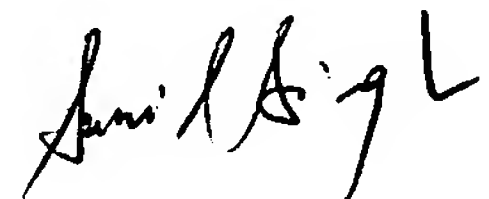
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (571) 272-7051. The examiner can normally be reached on Monday through Friday 10:30 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Engle Patricia can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sunil Singh
Primary Examiner
Art Unit 3673



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9/28/06